REMARKS

Claims 1-20 are pending in the application. Claims 10 and 12 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

I. OBJECTION TO THE ABSTRACT

The abstract has been amended herein to be in a suitable format as suggested by the Examiner. Withdrawal of the objection is respectfully requested.

II. OBJECTIONS TO THE CLAIMS

The claims stand objected to because of dependency. Claim 12 has been amended herein to depend from claim 11. As such, the claim dependency (e.g., claims 9-12) is believed to be proper. Withdrawal of the objection is respectfully requested.

III. REJECTIONS OF CLAIMS 10 AND 12 UNDER 35 U.S.C. § 112

Claims 10 and 12 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Claim 10 has been amended herein to remove the term, "sufficiently." Claim 12 has been amended herein to properly depend from claim 11, which recites antecedent basis for "the basic pattern having redundancy." Therefore, withdrawal of the rejections is respectfully requested.

IV. REJECTIONS OF CLAIMS 1-20 UNDER 35 U.S.C. § 103

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable based on various combinations of references. All rejections have in common U.S. Patent No. 6,037,984 ("Isnardi"), and U.S. Patent No. 6,415,042 ("Shin"). Applicants believe that all pending claims are allowable for at least the following reasons. Withdrawal of the rejections is respectfully requested.

One of the features recited in independent claims 1, 13, 17, 18, 19, and 20 is directed to embedding a digital watermark depending upon the magnitude relation of the coefficients of multiple blocks having a predetermined relationship. Specifically, independent claim 1 requires, *inter alia*, "comparing orthogonal transformed coefficients of at least two blocks having a predetermined relationship with each other and making the coefficients satisfy a preset order of magnitude according to bit information specified as the digital watermark, so as to embed the bit information." Independent claims 13, 17, 18, 19, and 20 contain recitations similar to those of claim 1.

The Isnardi patent uses DCT coefficients and selects certain ones of the DCT coefficients

that are then replaced by zero values to form a watermarked image. The technique of DCT transform is to use the coefficients that are replaced by zero values in order to compress data. Thus, the Isnardi system is incapable of compressing data that have been discrete-cosine-transformed. In this regard, Isnardi's teaching is just opposite to what the claimed invention requires. Nothing in the Isnardi patent teaches or suggests the claimed scheme, i.e., using the discrete-cosine-transformed coefficients of multiple blocks extracted from an image in order to embed a digital watermark.

As the Examiner acknowledged in the Office Action dated September 15, 2004, the Isnardi patent does not teach "comparing orthogonal transformed coefficients of at least two blocks having a predetermined relationship with each other" as claimed. In the Office Action, the Examiner introduces a reference, the Shin patent, to address the deficiencies of the Isnardi patent. Applicant respectfully submits that the Shin patent does not cure the deficiencies of the Isnardi patent.

The Shin patent describes a technique that performs discrete wavelet transform to watermark an image. The Shin system performs discrete wavelet transform on an original image in units of blocks of MxM dots, and performs transform on an original signature image (to be watermarked) in units of blocks of NxN dots. The relationship between N and M is "N<M." In order to perform watermarking, the Shin system replaces or combines NxN wavelet coefficients selected among MxM wavelet coefficients corresponding to blocks of MxM dot-image data.

However, nothing in the Shin patent suggests "comparing orthogonal transformed coefficients of at least two blocks." Rather, the Shin patent merely teaches replacement and combination of portions of data. See, Shin, column 5, paragraph 6. In making an obviousness rejection, it is important to consider what the references reasonably teach. It is respectfully submitted that Shin's data replacement/combination cannot be said to anticipate the claimed comparison of orthogonal transformed coefficients of at least two blocks.

The remaining cited references, i.e., Bhaskaran, and Ohbuchi have been reviewed, and it is believed that they each fail to cure the deficiencies of the Isnardi patent.

In summary, Applicant finds nothing in the cited references that suggests one of the claimed features, i.e., extracting two blocks of image data having a predetermined relationship (for example, adjacency), and carrying out DCT on these two blocks to obtain coefficients, so as to embed a digital watermark in the image based on the relationship between the obtained coefficients. Therefore it is respectfully submitted that the invention defined in independent claims 1, 13, 17, 18, 19, and 20, and their dependent claims is patentable over the cited art. Withdrawal of the rejections is respectfully requested.

V. CONCLUSION

Applicant believes that all pending claims are in condition for allowance, and respectfully request a Notice of Allowance at an early date. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-663-1100, ext. 245.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

Haruo Yawata
Limited Recognition under 37 CFR § 10.9(b)

Beyer Weaver & Thomas, LLP
P.O. Box 70250
Oakland, CA 94612-0250
510-663-1100, ext. 245